State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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April 12, 2000

Daniel C. Shepard
GoldTerra Inc.
4088 East Airport Road
Price, Utah 84501

Re: Initial Review of Notice of Intention to Commence Large Mining Operations, GoldTerra Inc. Blue Castle Mine, M/015/077, UTU-76642, Emery County, Utah

Dear Mr. Shepard:

The Division has completed a review of your draft Notice of Intention to Commence Large Mining Operations for the Blue Castle Mine, located in Emery County, Utah, which was received December 8,1999. After reviewing the information, the Division has the following comments which will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion. Please provide a response to this review by June 1, 2000

The Division acknowledges the BLM request for more information on the POO Because some of DOGM's comments are similar to the BLM's, the Division suggests that your response to the two requests be provided within the same volume.

The Division will suspend further review of the Blue Castle mine NOI until your response to this letter is received. If you have any questions in this regard please contact me, Doug Jensen, Tony Gallegos, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment: Review
cc: Dean Nyffeler, BLM, Price FO

REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Gold Terra Inc. Company
Blue Castle Mine

M/015/077

R647-4-104 - Filing Requirements and Review Procedures

The BLM is handling this notice as a Plan of Operations (POO) and also requiring an EA. DOGM will coordinate with BLM and suggest that one plan be made to satisfy both agencies. (AAG)

R647-4-105 - Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance

If a transmission line is to be constructed to supply power to the site, who will be responsible for the installation and maintenance? If a power line is to be constructed please show it's location. If this item will be the responsibility of the mine, the surface disturbance and removal of the powerline will need to be addressed in the reclamation plan and the acreage included in the total mine disturbance. (DJ)

105.2 Surface facilities map

Describe the dimensions and construction of all buildings that will be located within the millsite. Describe the equipment that will be contained in these areas. Describe any proposed crushing facilities outside of the process buildings. Will there be a wastewater discharge treatment and containment facility associated with this mine? If so please describe. The 1.2 acres allotted for parking and storage is not shown on the surface facilities map. Please explain where will the mill return water and the tailing pipeline corridor be located. This corridor area will need to be included in the total disturbance and addressed as a part of the final reclamation. Will there be a conveyor access corridor from the stockpile area to the mill site? If so please describe. A clearly defined disturbed area border needs to be included on the surface facilities map. Show fuel storage location on surface facilities map. (DJ)

Please identify and label the current disturbance associated with the small mine notice on the surface facilities map. The disturbance associated with the small mine notice will need to be included in the total disturbance acreage of this notice and reclamation addressed in the reclamation plan. (AAG)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

Please provide north-south & east-west cross-sections of both the lined and unlined tailings pond areas. Cross-sections should show present ground surface, the surface after mining and after reclamation. Describe the type of liner that will be placed in the lined pond. (DJ)

Please show the extent of the proposed mining related disturbance on a soils and vegetation map. (LK)

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.

Please provide a more detailed narrative description of the mining operation. Please include a description of the size and type of equipment that will be used to mine this deposit. (DJ)

106.3 Estimated acreages disturbed, reclaimed, annually.

A portion of the present small mine permit site and access road acreage (2.22 acres) does not appear to be included in the mine plan or in the reclamation plan. Please include this area in the plan. Please state the planned width of the access and haul roads in the plan. Assuming a 30 foot width of access and haul roads the total disturbance for these items will be 1.83 acres, not .92 acres noted in estimated acreage. Will the haul road for the first years production remain within the planned mine disturbance? Will there be an access road from the mill site to the stockpile area? If so please describe and include this disturbance in the plan and show it on the surface facilities map. (DJ)

106.4 Nature of materials mined, waste and estimated tonnages

Please describe the physical and chemical characteristics of the tailings material and the typical make-up of the tailings being pumped into the ponds (%solids). (AAG)

106.5 Existing soil types, location, amount

The NOI contained the results of an order 3 soils survey. A review of this data shows that much more soil may be available for salvage and reclamation than the proposed 3,336 cubic yards (3" average over 8.27 acres within the millsite area and access road). Two soils exist on these areas. About five acres of the area to be mined for year two is also within one of these two soil types. From the survey, 2 to 2-1/2 feet of suitable soil material exists for salvage. This area could yield approximately 42,750 cu. yds of soil material. In addition, about 95 acres of the mine site has a minimum of three (3) inches of suitable soil materials, which would yield an additional 38,300 cu. yds. Your proposal to salvage only 3,336 cu. yds. is not justified. These volume calculations are rough approximation only. They can be refined by providing a soils map which shows the areas that will be disturbed by the mining activities. Also, suitable soils criteria was based on the physical characteristics supplied by the soil survey. A lab analysis would better define whether all the soils described in the survey are suitable, or with reasonable amendments be made suitable, as a growth medium. Please provide a lab analysis of each soil type. The following is a list of parameters that each soil needs to be analyzed for. (LK)

Baseline Soils and Overburden

Recommended Laboratory Analyses
for each soil type to be disturbed

1. Texture
2. ph
3. EC (conductivity)
4. SAR
8. Alkalinity
9. $CaCO_3$
10. Selenium
11. Total Nitrogen

5. Saturation Percentage
6. Percent Organic Matter
7. CEC (cation exchange capacity)
12. Nitrate nitrogen
13. Phosphorus (as $P_2 O_5$)
14. Potassium (as K_2O)

106.6 Plan for protecting & redepositing soils

Please refer to comments under R647-4-106.5. Currently you have provided plans for storage of 3,336 cu. yds. Please provide plans showing where the remaining soil (approximately 77,700 cu. yds.) will be stockpiled. If these areas will be in addition to the present acreage, please include them in both the mine plan and reclamation plan. Also, all soil material stockpiles should be seeded to protect the soils from erosion until they are used for final reclamation. (LK)

Provide a soils map which identifies the extent of each soils type within the permit area (it may be possible to obtain this map from the Soil Conservation Service) . Show locations of any proposed topsoil and overburden stockpile. (LK)

Provide an estimated volume of soil material that can be salvaged and used later for reclamation. (Please note, even an inch or two of topsoil can greatly improve reclamation success). (LK)

106.7 Existing vegetation - species and amount

The vegetation study provided a list of the dominant vegetation species within the proposed disturbed area. However, it is unclear how vegetation was sampled and recorded. For example, the sampling description indicated that for each of 15 transects, 10 sample locations were located along the transect with cover at each sample location being determined with a 10-pin frame. How did you end up with 110 - 200 'hits' of vegetation, litter, bare ground, etc. for each transect? The percent of ground cover will need to be verified during the next field season. Please show the extent of existing and proposed mining related disturbance on the vegetation map. This will be needed to determine the reclamation standard for the area covered with each of the vegetation types at the site. Additional information regarding vegetation will not be required at this time. (LK)

106.8 Depth to groundwater, extent of overburden, geology

Given the amount of water needed for operations, are there any plans to drill a well in the area and use ground water? (TM)

106.9 Location & size of ore, waste, tailings, ponds

The location of the 19.3 acre tailings pond is not shown on any map. What type of ground preparations will be made prior to placing tailings in this in-pit disposal area? What is the proposed depth of the in-pit tailings pond and the lined ponds? (DJ)

Has this plan been submitted to the Division of Water Quality for approval of this type of mining operation? (DJ)

How will the in-pit tailings pond be constructed? Will it be built using single point discharge or will a peripheral discharge system be used? (DJ)

Please provide details on how a projected production rate of 803,000 cu yds of tailings/year for the first two to three years, will be placed in the 1.72 acre lined pond. (DJ)

The in-pit stockpile area should be shown on the surface facilities map. (DJ)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.12 Disposal of trash, scrap, debris

Please provide a plan of how the liners in the two lined ponds will be removed once tailings have been placed into the ponds. If the lined pond area is not available for disposal of the concrete during the closure of the process area, where will this material be disposed of? Burial of concrete onsite will require BLM approval. (DJ)

107.1.13 Plugging or capping drill holes

Will there be any drill holes associated with the project? (TM)

107.1.15 Constructing berms, fences, etc. above highwalls

If exploration is being contemplated in the areas above the mine terraces, berms or fences need to be installed prior to the initiation of this work. (DJ)

107.2 Drainages to minimize damage

The operation plan is unclear regarding how drainage from watershed 'A' will get to the tailings pond and how watershed "B" will be maintained once mining starts. It is not recommended to put silt fences in a drainage as this is not what they are designed for. Sediment is not as much a concern in this area. Mancos Shale when disturbed becomes very unstable and erosive. The only way to avoid this would be to keep slopes short and provide a large degree of surface roughness to the disturbed soils. Detention basins will work much better then silt fences and provide greater storage and less frequent maintenance. The drainage in watershed "A" will be disturbed during the mining phase and, therefore, will need to be restored and reclaimed. (TM)

107.3 Erosion control & sediment control

Erosion control and sediment control becomes an issue when the Mancos Shale is disturbed and becomes unstable. The mass wasting of the Mancos will possibly create reclamation problems if it is not controlled through slope and surface roughness management. Please elaborate on how this will be carried out. (TM)

107.4 Deleterious material safely stored or removed.

Supplemental emergency containment capacity for storage of fuels, chemicals, etc. is 110% of the total storage capacity. (DJ)

107.5 Suitable soils removed & stored

Please see comments under R647-4-106.5 and 106.6. Please describe fully how soil materials will be salvaged and stored for later use in reclamation. (LK)

107.6 Concurrent reclamation

Please describe plans for any concurrent reclamation activities that will take place during operations and prior to final reclamation of the site. These plans should include a map showing the location of areas to be reclaimed concurrently and discuss any reclamation activities that are not included within the final reclamation plan. This plan should also describe any interim stabilization practices that will be used prior to final reclamation. (LK)

R647-4-108 - Hole Plugging Requirements

If exploration drilling is done at a future date, all holes will need to be plugged as provided for under R647-4-108. (DJ)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems

Impact to surface water quality is not an issue; however, an issue related to channel stability during and following mining is of concern. Slope stability problems during mining will potentially cause mass wasting of soils and large amounts of soil material could move into the ephemeral channels. Please address how this will be controlled. (TM)

109.2 Impacts to threatened & endangered wildlife/habitat

Please reference any clearance surveys performed at the site. Please provide documentation for the individuals or company performing these clearances. Please provide documentation for any cultural surveys performed as well. (DJ)

109.3 Impacts on existing soils resources

Impacts to soil resources are not discussed in the NOI. Current plans (see R647-4-110.5) do not provide for reasonable re-establishment of the protective vegetation cover. Please provide a discussion of the impacts to the soil resources and describe measures that will mitigate these impacts, including salvaging all suitable soil materials and amending marginal soil materials so that they will support vegetation. (LK)

109.4 Slope stability, erosion control, air quality, safety

Describe the dimensions of the terraces in the mine area (height and width). Although the crusher and screens will have water sprays, an application for an air quality permit may still be necessary. Please provide documentation that this operation will comply with State Division of Air Quality regulations. (DJ)

Groundwater is not an issue unless it is used in the mine and milling process or if water is discharged offsite. (TM)

Please address the comments regarding slope stability and erosion control found under R647-4-107.3 and 109.1. (TM)

R647-4-110 - Reclamation Plan

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Due to the likely erosive nature of the mill tailings, the Division believes the tailings ponds should be capped as a part of final reclamation. Please provide a tailings cap design which minimizes wind and water erosion. Because erosion is a concern, final contouring and revegetation will need to be addressed in the reclamation plan. (DJ)

The access roads and millsite area should be ripped to a depth of one foot (1') to remove compaction. Please modify the reclamation plan and cost estimate to include ripping of these areas with a dozer. (DJ)

110.3 Description of facilities to be left (post mining use)

There are no facilities that are planned to be left after mining. (LK)

110.4 Description or treatment/disposition of deleterious or acid forming material

Removal of the liners in the temporary ponds may not be possible if tailings have been placed in them. Why are these ponds described as temporary if they are to remain a part of the mine until closure? (DJ)

110.5 Revegetation planting program

The operator is proposing to spread topsoil and revegetate the mill site, lined tailings pond area and access roads (8.27 acres of the 132 acres proposed to be disturbed). From the data provided in the NOI, over 95 acres of the mine site have suitable soil materials and vegetation cover. Plans must be provided to salvage these soils for reclamation. Plans must be provided to revegetate this area as well. The NOI states that no fertilizer is required. What is the basis of this claim since there is no analytical soils data to back this statement (see comments under R647-4-106.5)? The soils described in the NOI typically have low organic matter as a limiting factor for re-establishing vegetation. It is likely that these soils will need an organic amendment (such as biosolids or composted manure) to increase the percentage of organic matter to make revegetation success likely. The amount of amendment needed cannot be determined until the analytical tests requested under R647-4-106.5 have been submitted. The seed mix provided in the NOI is not expected to provide a permanent and diverse vegetation cover suitable for the post mining land use of grazing and wildlife habitat. Attached is a proposed seed mix that would be more suited for meeting these goals. If acceptable, please include it in your reclamation plans. Otherwise, propose a new seed mix that would meet the reclamation goals. Also, please provide plans that describe the timing of seeding (late fall is best). (LK)

For the areas where vegetation will not be re-established by seeding, please provide alternate procedures that will minimize or control erosion as required under R647-4-110.5.12. (LK)

R647-4-111 - Reclamation Practices

1.15 Constructing berms/fences above highwalls

Refer to comments under R647-4.1.15 (DJ)

111.2 Reclamation of natural channels

Please describe how stable channels will be recreated following mining without the use of riprap. (TM)

111.3 Erosion & sediment control

Re-establishing vegetation is key to short and long term erosion and sediment control. (LK)

111.5 Land capable of post mining land use

The current plan to leave large areas un revegetated does not support the post mining land use plans of grazing and wildlife habitat (See also comments under R647-4-110.5). (LK)

111.7 Highwalls stabilized at 45 degrees or less

There will be no highwall slopes greater than 45^0. (DJ)

111.9 Dams & impoundments left self draining & stable

A statement needs to be included in the reclamation plan stating that the 19.3 acre tailings pond will not impound water upon closure. (DJ)

How will the impoundments be maintained given the potential that large amounts of sediment may leave the disturbed area and be contained within the impoundments? (TM)

111.12 Topsoil redistribution

The NOI contains plans to only spread 3 inches of soil on approximately 8.27 acres of disturbance (a total of 3,336 cu. yds. of material). Please refer to comments under R647-4-106.5. Approximately 81,000 cu. yds. of suitable soil material is available and needs to be salvaged and protected for later use in reclamation. It is likely that this material may require amendments or fertilizer to support revegetation efforts. Please describe how soil materials will be respread over the reclaimed areas (include the type(s) of equipment needed as well). (LK)

R647-4-112 - Variance

The NOI contains a request for a variance to rule R647-4-110.5 - Revegetation planting program and topsoil redistribution. Please note, Rule R647-4-112 does not allow the Division to grant variances to Rule R647-4-110.5. The Division may grant variances for salvaging soil materials (Rule R647-4-107.5). However, the NOI has not provided adequate justification for granting this variance. The Division cannot grant variances from seeding. However, rock outcrop areas, permanent water areas and

the travel surface of roads (approved for the post mining land use) do not require reseeding. The Division can grant a variance to meeting the revegetation success standard, but only when acceptable alternative standards are proposed, or when the Division determines that the revegetation work has been satisfactorily completed within practical limits. With this in mind, the requested variance is therefore ***denied***. (LK)

R647-4-113 - Surety

Blue Castle Reclamation Cost Estimate

Costs for capping and regrading the 19.3 acre tailings pond should be incorporated into the reclamation costs. (DJ)

Ripping of pit floors, which ultimately do not become a part of the tailings pond, should be incorporated into the reclamation plan and the cost estimate. (DJ)

Steel recycling notes a 40 mile haul in the introduction and the surety indicates a calculation based on a 20 mile haul. Please adjust estimate to reflect correct the haul distance. (DJ)

The mill and structure calculation indicates a building 100'X100'X30'X**0.35** size. Explain the reason for the 0.35 factor. (DJ)

In the Earthworks cost summary a statement is made ---- "and regrading of the top 12" of the *unfinished portion* of the tailings pile which is estimated to be approximately 25% of the total 19.30 acres, of 4.83 acres." This statement is confusing. Please explain which portion of the tailings pond will be unfinished? Depending on how the tailings pond is constructed, reworking the entire 19.3 acres may be necessary at final reclamation. (DJ)

Include costs for regrading and capping the tailings pond. (DJ)

Include mobilization cost for equipment required to complete final reclamation. (DJ)

Include supervision cost for final reclamation. (DJ)

The final cost estimate will need to include five years of escalation. The current escalation figure used by the Division is 3.27% per year. (DJ)

R647-4-115 - Confidential Information

No confidential information noted in the plan. (DJ)

Attachment: Soil Parameter List, Recommended Seedmix

Recommended Revegetation Species List
for

GoldTerra, Inc.
Blue Castle Mine
M/015/077

Common Name	Species Name	*Rate lbs/ac (PLS)
'Hycrest' crested wheatgrass	*Agropyron cristatum 'hycrest'*	0.5
Intermediate wheatgrass	*Agropyron intermedium*	2.0
Indian ricegrass	*Oryzopsis hymenoides*	2.0
Needle and thread grass	*Stipa comata*	2.0
Scarlet globe mallow	*Sphaeralcea coccinea*	0.5
Pacific aster	*Aster chilensis*	0.25
Yellow sweetclover	*Melilotus officinalis*	0.5
Rabbitbrush	*Chrysothamnus nauseosus*	0.5
4-wing saltbush	*Atriplex canescens*	1.5
Shadscale	*Atriplex confertifolia*	1.5
Mat saltbush	*Atriplex corrugata*	1.0
Forage kochia	*Kochia prostrata*	0.5
	Total Seed	**12.75 lbs/ac**

Prepared by DOGM February 23, 2000

M015/077.sdm